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FACT SHEET

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT TO DISCHARGE TREATED WASTEWATER
INTO WATERS OF THE COMMONWEALTH

PERMIT No.: KY0002020 **Permit Writer:** Sara J. Beard **Date:** September 14, 2009
AI No.: 3148

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

Kentucky Utilities Company
P.O. Box 32010
Louisville, Kentucky 40232

b. Facility Location

Kentucky Utilities Company
E.W. Brown Generating Station
815 Dix Dam Road
Harrodsburg, Mercer County, Kentucky

c. Description of Applicant's Operation

Coal-fired steam electric generation facility (SIC Code 4911).

d. Production Capacity of Facility

Unit 1 – 112 MW
Unit 2 – 180 MW
Unit 3 – 465 MW

Hydroelectric Units 1, 2, and 3 – 8.3 MW each (25 MW total)

Combustion Turbine Units 5, 6, 7, 8, 9, 10, and 11 – 135, 160, 160, 125, 125, 125, and 125 MW, respectively.

e. Description of Existing Pollution Abatement Facilities

Outfall 001 - Mixing, sedimentation, and chemical precipitation are provided to the combined wastewaters of the Bottom Ash Basin (bottom ash sluice) and the Fly Ash and Gypsum Treatment Basin (fly ash sluice and gypsum processing plant wastewater), low volume wastes (Units 1, 2, and 3 oil water

1. **SYNOPSIS OF APPLICATION - continued**

e. Description of Existing Pollution Abatement Facilities - continued

separator lift stations and combustion turbines wastewater), stormwater runoff, coal pile runoff, and metal cleaning wastes (internal Outfall 004).

Outfall 002 - Disinfection of cooling tower blowdown for Units 1 and 2 and untreated stormwater runoff.

Outfall 003 - Disinfection of cooling tower blowdown for Unit 3 and miscellaneous heat exchangers and untreated stormwater runoff.

Outfall 004 - No treatment of batch metal cleaning wastes prior to discharge to Outfall 001.

Outfall 005 - Plant intake.

f. Permitting Action

Reissuance of a major KPDES permit for an existing source coal-fired steam electric generation facility.

2. **RECEIVING WATERS**

a. Receiving Water Name

Outfalls 001, 002 and 003 discharge to Herrington Lake (Dix River) at mile point 3.4 (at N 37°47′03″, W 84°43′09″; N 37°47′11″, W 84°42′46″; and N 37°47′13″, W 84°42′52″, respectively).

Outfall 004 is an internal outfall that goes to the ash basins prior to discharge through Outfall 001.

Outfall 005 is the plant intake from Herrington Lake at N 37°46′59″, W 84°42′32″.

b. Stream Segment Use Classifications

Herrington Lake is classified as Warm Water Aquatic Habitat, Primary Contact Recreation, Secondary Contact Recreation, and Domestic Water Supply.

c. Stream Segment Antidegradation Categorization

This segment of Herrington Lake is listed as Impaired on the 2008 303(d) List of Waters For Kentucky. Impairments include nonsupport of Warm Water Aquatic Habitat, partial support of fish consumption. The pollutants of concern are Methylmercury, Nutrient/Eutrophication Biological Indicators, and Dissolved Oxygen. Suspected sources are Agriculture, Internal Nutrient Recycling, Municipal Point Source Discharges, On-site Treatment Systems (septic systems and similar decentralized systems), and unknown sources.

d. Stream Low Flow Condition

At the point of discharge, the 7Q10 and the Harmonic Mean for Herrington Lake are 100 cfs and unknown, respectively.

3. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall 001 – Mixing, sedimentation, and chemical precipitation are provided to the combined wastewaters of the Bottom Ash Basin (bottom ash sluice) and the Fly Ash and Gypsum Treatment Basin (fly ash sluice and gypsum processing plant wastewater), low volume wastes (Units 1, 2, and 3 oil water separator lift stations and combustion turbines wastewater), stormwater runoff, coal pile runoff, and metal cleaning wastes (internal Outfall 004).

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	5.2	6.0	Report	Report	401 KAR 5:065, Section 2(8)
Total Suspended Solids (mg/l)	18.8	22.5	30	80	401 KAR 5:065, Sections 4 and 5 401 KAR 5:080, Section 1(2)(c)2
Oil & Grease	BDL	BDL	12	14	401 KAR 5:065, Sections 4 and 5 401 KAR 5:080, Section 1(2)(c)2
Hardness (as mg/l CaO_3)	247	265	Report	Report	401 KAR 5:065, Section 2(8)
Total Recoverable Metals (mg/l)	0.26	0.26	Report	Report	401 KAR 5:065, Section 2(8)
Acute Toxicity (TUa)	N/A	< 1.0	N/A	1.00	401 KAR 10:029, Section 5 401 KAR 10:031, Sections 1 and 4
pH (Standard Units)	7.4	8.8	6.0 min	9.0 max	401 KAR 10:031, Section 4

The data contained under the Reported Discharge columns are not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation BDL means Below Detection Limit.
The abbreviation N/A means Not Applicable.

The term Total Recoverable Metals means those metals listed on Form C, Section V, Part C – Metals, Cyanide, and Total Phenols: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc.

4. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 001 – Mixing, sedimentation, and chemical precipitation are provided to the combined wastewaters of the Bottom Ash Basin (bottom ash sluice) and the Fly Ash and Gypsum Treatment Basin (fly ash sluice and gypsum processing plant wastewater), low volume wastes (Units 1, 2, and 3 oil water separator lift stations and combustion turbines wastewater), stormwater runoff, coal pile runoff, and metal cleaning wastes (internal Outfall 004).

b. Effluent Characteristics

Flow	Total Suspended Solids	Oil & Grease
Hardness	Total Recoverable Metals	Acute Toxicity
pH		

c. Pertinent Factors

Units 1, 2, and 3 are existing sources subject to the requirements of 40 CFR Part 423 – Steam Electric Poser Generating Point Source Category (1974 version). The specific requirements include the "Best Practicable Technology Currently Available" (BPT – 423.12) and "Best Available Technology Economically Achievable" (BAT – 423.13).

The treatment plant is a co-treatment system (i.e. the treatment plant treats several wastestreams, including stormwater). Development of flow-weighted limitations is required to ensure compliance with the effluent guidelines. A summarization of the effluent guidelines, water quality standards, assumptions, and calculations can be found in Fact Sheet Attachment A – Regulatory Requirements.

d. Monitoring Requirements

The flow shall be monitored instantaneously twice per month by weir.

Total Suspended Solids, Oil & Grease, Hardness, and pH shall be monitored twice per month by grab sample.

Total Recoverable Metals shall be monitored once per quarter by grab sample. The results of the analyses shall be totaled and reported as a single concentration on the Discharge Monitoring Report (DMR). The laboratory bench sheets showing the results for each metal shall be attached to the DMR.

Acute Toxicity shall be monitored once per quarter by two (2) grab samples.

4. METHODOLOGY USED IN DETERMINING LIMITATIONS – continued

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Concentration Limitations Versus Mass Based Limitations
Pursuant to 401 KAR 5:065, Sections 4 and 5, the requirements of 40 CFR Part 423 – Steam Electric Power Generating Point Source Category apply to this discharge. In accordance with 423.12(b)(11) and 423.13(g) the permitting authority may allow the quantity of pollutant discharge to be expressed as a concentration limitation instead of a mass based limitation. The Division of Water has determined to apply the requirements of 40 CFR Part 423 in this manner.

Flow, Hardness, and Total Recoverable Metals
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Suspended Solids and Oil & Grease
The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 and 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the BPT requirements for the discharge of these pollutants in a co-treatment facility that treats wastewaters including, but not limited to, low volume wastes (423.12(b)(3)), ash transport water (423.12(b)(4)), and metal cleaning wastes (423.12(b)(5) and the Division of Water's "Best Professional Judgment" (BPJ) for the discharge of these pollutants in stormwater runoff..

pH
The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4.

Acute Toxicity
The limit for this parameter is consistent with the requirements of 401 KAR 10:029, Section 5 and 401 KAR 10:031, Sections 1 and 4.

5. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall 002 – Disinfection of cooling tower blowdown for Units 1 and 2 and untreated stormwater runoff.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	1.56	2.69	Report	Report	401 KAR 5:065, Section 2(8)
Temperature (^{o}F)	30.7 (^{o}C)	34.9 (^{o}C)	Report	Report	401 KAR 5:065, Section 2(8) 401 KAR 5:080, Section 1(2)(c)2 401 KAR 10:031, Section 4 401 KAR 10:029, Section 4
Free Available Chlorine (mg/l)	D/C	D/C	0.2	0.5	401 KAR 5:065, Sections 4 and 5
Total Residual Chlorine (mg/l)	D/C	D/C	Removing from Permit		401 KAR 5:080, Section 1(2)(c)2
Total Residual Oxidants (mg/l)	N/R	N/R	Report	0.20	401 KAR 5:080, Section 1(2)(c)2
Time of Oxidant Addition (minutes/unit/day)	N/R	N/R	N/A	120	401 KAR 5:080, Section 1(2)(c)2 401 KAR 5:065, Sections 4 and 5
Total Chromium (mg/l)	0	0	0.2	0.2	401 KAR 5:065, Sections 4 and 5
Total Zinc (mg/l)	0.016	0.016	1.0	1.0	401 KAR 5:065, Sections 4 and 5
Priority Pollutants* (mg/l)	N/R	NDA	N/A	NDA	401 KAR 5:065, Sections 4 and 5
pH (Standard Units)	6.9	9.4	6.0 min	9.0 max	401 KAR 10:031, Section 4

5. REPORTED DISCHARGE AND PROPOSED LIMITS - continued

The data contained under the Reported Discharge columns are not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation D/C means Does Not Chlorinate.

The abbreviation N/A means Not Applicable.

The abbreviation NDA means No Detectable Amount.

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time.

The term Priority Pollutants means the 126 priority pollutants listed in 40 CFR Part 423 Appendix A. See Fact Sheet Attachment A – Regulatory Requirements.

* Compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136. Sampling of cooling tower blowdown must be taken at the nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

6. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 002 – Disinfection of cooling tower blowdown for Units 1 and 2 and untreated stormwater runoff.

b. Effluent Characteristics

Flow	Temperature	Free Available Chlorine
Total Residual Oxidants	Total Residual Chlorine	
Time of Oxidant Addition	Total Chromium	Total Zinc
Priority Pollutants	pH	

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

Units 1 and 2 are existing sources subject to the requirements of 40 CFR Part 423 – Steam Electric Poser Generating Point Source Category (1974 version). The specific requirements include the "Best Practicable Technology Currently Available" (BPT – 423.12) and "Best Available Technology Economically Achievable" (BAT – 423.13).

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Regulatory Requirements.

d. Monitoring Requirements

Flow shall be monitored instantaneously once per week.

Temperature and pH shall be monitored once per week by grab sample.

Monitoring for Total Residual Oxidants, Free Available Chlorine, and Time of Oxidant Addition shall be conducted during periods of oxidation, but no more frequently than once per week. Multiple grabs consisting of grab samples collected at the approximate beginning of FAC/TRO discharge and once every fifteen (15) minutes thereafter until the end of FAC/TRO discharge. A log shall be maintained of the oxidant addition occurrences.

Total Chromium, Total Zinc, and Priority Pollutants shall be monitored annually by grab sample.

6. METHODOLOGY USED IN DETERMINING LIMITATIONS - continued

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Concentration Limitations Versus Mass Based Limitations
Pursuant to 401 KAR 5:065, Sections 4 and 5, the requirements of 40 CFR Part 423 – Steam Electric Power Generating Point Source Category apply to this discharge. In accordance with 423.12(b)(11) and 423.13(g) the permitting authority may allow the quantity of pollutant discharge to be expressed as a concentration limitation instead of a mass based limitation. The Division of Water has determined to apply the requirements of 40 CFR Part 423 in this manner.

Flow
The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Temperature
The monitoring requirement for this parameter is consistent with the requirements of 401 KAR 5:065, Section 2(8), 401 KAR 5:080, Section 1(2)(c)2, 401 KAR 10:031, Section 4, and 401 KAR 10:029, Section 4.

Free Available Chlorine
The limits for this parameter are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the BPT and BAT requirements for the discharge of these pollutants in cooling tower blowdown as specified in 40 CFR Part 423.12(b)(7) and 423.13(d)(1).

Total Residual Chlorine
The removal of this parameter from the permit is consistent with the 401 KAR 5:080, Section 1(2)(c)2. Kentucky Utilities – E.W. Brown Station does not use chlorine as an oxidant, therefore it is the "Best Professional Judgment" (BPJ) of the Division of Water that this parameter be removed from the permit.

Time of Chlorine Addition
The limit for this parameter is consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 and the NSPS requirements for the discharge of this pollutant in cooling tower blowdown as specified in 40 CFR Part 423.15(j)(2).

Total Residual Oxidants
The limit for this parameter is consistent with the requirements of 401 KAR 5:080, Section 1(2)(c) 2. The limit is representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for this pollutant.

6. METHODOLOGY USED IN DETERMINING LIMITATIONS - continued

e. Justification of Limits – continued

Time of Oxidant Addition
The limit for this parameter is consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 and 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the BPT and BAT requirements for the addition of Chlorine in cooling water as specified in 40 CFR Parts 423.12(b)(8) and 423.13(d)(2). It is the Best Professional Judgment (BPJ) of the Division of Water that this requirement is also applicable to the addition of other oxidants.

Total Chromium, Total Zinc, and Priority Pollutants
The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the BAT requirements for the discharge of these pollutants in cooling tower blowdown as specified in 40 CFR Part 423.13(d)(1).

pH
The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4.

7. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall 003 – Disinfection of cooling tower blowdown for Unit 3 and miscellaneous heat exchangers and untreated stormwater runoff.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	1.62	3.17	Report	Report	401 KAR 5:065, Section 2(8)
Temperature (°F)	30.7 (°C)	34.9 (°C)	Report	Report	401 KAR 5:065, Section 2(8) 401 KAR 5:080, Section 1(2)(c)2 401 KAR 10:031, Section 4 401 KAR 10:029, Section 4
Free Available Chlorine (mg/l)	D/C	D/C	0.2	0.5	401 KAR 5:065, Sections 4 and 5
Total Residual Chlorine (mg/l)	D/C	D/C	Removing from Permit		401 KAR 5:080, Section 1(2)(c)2
Total Residual Oxidants (mg/l)	N/R	N/R	Report	0.20	401 KAR 5:080, Section 1(2)(c)2
Time of Oxidant Addition (minutes/unit/day)	N/R	N/R	N/A	120	401 KAR 5:080, Section 1(2)(c)2 401 KAR 5:065, Sections 4 and 5
Total Chromium (mg/l)	0	0	0.2	0.2	401 KAR 5:065, Sections 4 and 5
Total Zinc (mg/l)	0.016	0.016	1.0	1.0	401 KAR 5:065, Sections 4 and 5
Priority Pollutants* (mg/l)	N/R	NDA	N/A	NDA	401 KAR 5:065, Sections 4 and 5
pH (Standard Units)	6.7	8.9	6.0 min	9.0 max	401 KAR 10:031, Section 4

7. REPORTED DISCHARGE AND PROPOSED LIMITS - continued

The data contained under the Reported Discharge columns are not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation D/C means Does Not Chlorinate.

The abbreviation N/A means Not Applicable.

The abbreviation NDA means No Detectable Amount.

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time.

The term Priority Pollutants means the 126 priority pollutants listed in 40 CFR Part 423 Appendix A. See Fact Sheet Attachment A – Regulatory Requirements.

* Compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136. Sampling of cooling tower blowdown must be taken at the nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

8. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 003 – Disinfection of cooling tower blowdown for Unit 3 and miscellaneous heat exchangers and untreated stormwater runoff.

b. Effluent Characteristics

Flow	Temperature	Free Available Chlorine
Total Residual Oxidants	Total Residual Chlorine	
Time of Oxidant Addition	Total Chromium	Total Zinc
Priority Pollutants	pH	

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

Unit 3 is an existing source subject to the requirements of 40 CFR Part 423 – Steam Electric Poser Generating Point Source Category (1974 version). The specific requirements include the "Best Practicable Technology Currently Available" (BPT – 423.12) and "Best Available Technology Economically Achievable" (BAT – 423.13).

A summarization of the water quality standards can be found in Fact Sheet Attachment A – Regulatory Requirements.

d. Monitoring Requirements

Flow shall be monitored instantaneously once per week.

Temperature and pH shall be monitored once per week by grab sample.

Monitoring for Total Residual Oxidants, Free Available Chlorine, and Time of Oxidant Addition shall be conducted during periods of oxidation, but no more frequently than once per week. Multiple grabs consisting of grab samples collected at the approximate beginning of FAC/TRO discharge and once every fifteen (15) minutes thereafter until the end of FAC/TRO discharge. A log shall be maintained of the oxidant addition occurrences.

Total Chromium, Total Zinc, and Priority Pollutants shall be monitored annually by grab sample.

8. METHODOLOGY USED IN DETERMINING LIMITATIONS - continued

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Concentration Limitations Versus Mass Based Limitations
Pursuant to 401 KAR 5:065, Sections 4 and 5, the requirements of 40 CFR Part 423 – Steam Electric Power Generating Point Source Category apply to this discharge. In accordance with 423.12(b)(11) and 423.13(g) the permitting authority may allow the quantity of pollutant discharge to be expressed as a concentration limitation instead of a mass based limitation. The Division of Water has determined to apply the requirements of 40 CFR Part 423 in this manner.

Flow
The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Temperature
The monitoring requirement for this parameter is consistent with the requirements of 401 KAR 5:065, Section 2(8), 401 KAR 5:080, Section 1(2)(c)2, 401 KAR 10:031, Section 4, and 401 KAR 10:029, Section 4.

Free Available Chlorine
The limits for this parameter are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the BPT and BAT requirements for the discharge of these pollutants in cooling tower blowdown as specified in 40 CFR Part 423.12(b)(7) and 423.13(d)(1).

Total Residual Chlorine
The removal of this parameter from the permit is consistent with the 401 KAR 5:080, Section 1(2)(c)2. Kentucky Utilities – E.W. Brown Station does not use chlorine as an oxidant, therefore it is the "Best Professional Judgment" (BPJ) of the Division of Water that this parameter be removed from the permit.

Time of Chlorine Addition
The limit for this parameter is consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 and the NSPS requirements for the discharge of this pollutant in cooling tower blowdown as specified in 40 CFR Part 423.15(j)(2).

Total Residual Oxidants
The limit for this parameter is consistent with the requirements of 401 KAR 5:080, Section 1(2)(c) 2. The limit is representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for this pollutant.

8. METHODOLOGY USED IN DETERMINING LIMITATIONS - continued

e. Justification of Limits – continued

Time of Oxidant Addition
The limit for this parameter is consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 and 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the BPT and BAT requirements for the addition of Chlorine in cooling water as specified in 40 CFR Parts 423.12(b)(8) and 423.13(d)(2). It is the Best Professional Judgment (BPJ) of the Division of Water that this requirement is also applicable to the addition of other oxidants.

Total Chromium, Total Zinc, and Priority Pollutants
The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the BAT requirements for the discharge of these pollutants in cooling tower blowdown as specified in 40 CFR Part 423.13(d)(1).

pH
The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4.

9. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall 004 (Metal cleaning waste Internal Outfall) – No treatment of batch metal cleaning wastes prior to discharge to Outfall 001.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	ND	ND	Report	Report	401 KAR 5:065, Section 2(8)
Copper, Total (mg/l)	ND	ND	1.0	1.0	401 KAR 5:065, Sections 4 and 5
Iron, Total (mg/l)	ND	ND	1.0	1.0	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids* (mg/l)	ND	ND	30	100	401 KAR 5:065, Sections 4 and 5 401 KAR 5:080, Section 1(2)(c)2
Oil & Grease* (mg/l)	ND	ND	20	30	401 KAR 5:065, Sections 4 and 5 401 KAR 5:080, Section 1(2)(c)2
pH (Standard Units)	ND	ND	6.0	9.0	401 KAR 5:065, Sections 4 and 5

The data contained under the Reported Discharge columns are not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the current permit.

The abbreviation ND means No Discharge.

*Monitoring for these parameters will occur at Outfall 001

10. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 004 (Metal cleaning waste Internal Outfall) – No treatment of batch metal cleaning wastes prior to discharge to Outfall 001.

b. Effluent Characteristics

Flow	Total Copper	Total Iron
Total Suspended Solids	Oil & Grease	pH

c. Pertinent Factors

Units 1, 2, and 3 are existing sources subject to the requirements of 40 CFR Part 423 – Steam Electric Poser Generating Point Source Category (1974 version). The specific requirements include the "Best Practicable Technology Currently Available" (BPT – 423.12) and "Best Available Technology Economically Achievable" (BAT – 423.13).

A summarization of the effluent guidelines, water quality standards, assumptions, and calculations can be found in Fact Sheet Attachment A – Regulatory Requirements.

d. Monitoring Requirements

Flow measurements shall be calculated once per metal cleaning operation.

Total Copper, Total Iron, and pH shall be monitored once per metal cleaning operation by grab sample.

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Internal Monitoring Requirement
Section 3(8) of 401 KAR 5:065 authorizes the establishment of internal monitoring points to ensure compliance with applicable treatment requirements, which when commingling with other wastestreams will prevent measuring compliance. In this case, the much smaller sanitary wastewater flow is commingled with the larger discharge flow from the plant area stormwater runoff.

Concentration Limitations Versus Mass Based Limitations
Pursuant to 401 KAR 5:065, Sections 4 and 5, the requirements of 40 CFR Part 423 – Steam Electric Power Generating Point Source Category apply to this discharge. In accordance with 423.12(b)(11) and 423.13(g) the permitting authority may allow the quantity of pollutant discharge to be expressed as a concentration limitation instead of a mass based limitation. The Division of Water has determined to apply the requirements of 40 CFR Part 423 in this manner.

10. METHODOLOGY USED IN DETERMINING LIMITATIONS - continued

e. Justification of Limits – continued

Flow and pH
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Total Copper and Total Iron
The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the BPT (423.12(b)(5)) and BAT (423.13(e)) requirements for the discharge of these pollutants in metal cleaning wastes.

Total Suspended Solids, and Oil & Grease
The limits for these parameters are consistent with 401 KAR 5:080, Section 1(2)(c)2. It is the Best Professional Judgment (BPJ) of the Division of Water that these limits are applied after at Outfall 001. The Division has determined that application of the requirements for these parameters after commingling will be appropriate due to the same requirements being applied to the other wastestreams of Outfall 001.

11. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Outfall 005 – Plant Intake.

Effluent Characteristics	Reported Discharge Monthly Average	Reported Discharge Daily Maximum	Proposed Limits Monthly Average	Proposed Limits Daily Maximum	Applicable Water Quality Criteria and/or Effluent Guidelines
Flow (MGD)	27.1	31.4	Report	Report	401 KAR 5:065, Section 2(8)
Temperature (^{o}F)	14.4(^{o}C)	15.5(^{o}C)	Report	Report	401 KAR 5:065, Section 2(8)
Total Suspended Solids (mg/l)	1.09	1.34	Report	Report	401 KAR 5:065, Section 2(8)
Hardness (as mg/l $CaCO_3$)	146	153	Report	Report	401 KAR 5:065, Section 2(8)
Total Recoverable Metals (mg/l)	0.95	0.95	Report	Report	401 KAR 5:065, Section 2(8)
pH (Standard Units)	7.4	8.3	Report(min)	Report(max)	401 KAR 5:065, Section 2(8)

The data contained under the Reported Discharge columns are not from the renewal application but rather from the analysis of the DMR data that has been reported during the term of the current permit.

The term Total Recoverable Metals means those metals listed on Form C, Section V, Part C – Metals, Cyanide, and Total Phenols: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc.

12. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. Serial Number

Outfall 005 – Plant Intake

b. Effluent Characteristics

Flow	Temperature	Total Suspended Solids
Hardness	pH	Total Recoverable Metals

c. Pertinent Factors

On September 8, 2004 Kentucky's revised water quality standards, 401 KAR 10:031 became effective.

d. Monitoring Requirements

Flow shall be calculated once per week

Temperature, Total Suspended Solids, Hardness, and pH shall be monitored once per week by grab sample.

Total Recoverable Metals shall be monitored once per quarter by grab sample. The results of the analyses shall be totaled and reported as a single concentration on the Discharge Monitoring Report (DMR). The laboratory bench sheets showing the results for each metal shall be attached to the DMR.

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow, Temperature, Total Suspended Solids, Hardness, Total Recoverable Metals, and pH
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8)(a).

13. ANTIDEGRADATION

The conditions of 401 KAR 10:029, Section 1 have been satisfied by this permit action. This permit action involves the reissuance of a permit with a proposed expanded discharge. This proposed expanded discharge is to "impaired waters". Therefore, a review under 401 KAR 10:030 Section 1 is not applicable.

14. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

The permittee shall comply with the effluent limitations and permit conditions by the effective date of the permit.

Within one (1) year of the effective date of this permit, Kentucky Utilities Company - E.W. Brown Generating Station will submit to the Division of Water a 316(a) demonstration or verification that the previous demonstration is still valid. At this time the Division will review the information submitted and determine if alternate temperature limits are appropriate.

15. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

316(b) Cooling Water Intake Structure

Kentucky Utilities Company - E.W. Brown Generating Station is an "Existing Facility" pursuant to the definition found in 40 CFR 125.93. In response to the 2nd Circuit Court of Appeals decision in Riverkeeper, Inc., v. EPA, the EPA has suspended the Cooling Water Intake Structure Regulations for existing large power plants. The Division of Water believes that the permittee has demonstrated that the adverse environmental impact associated with the use of cooling water intake structures has been minimized and therefore complies with Section 316(b) of the Clean Water Act.

Best Management Practices (BMP) Plan

Pursuant to 401 KAR 5:065, Section 2(10), a BMP requirement shall be included: to control or abate the discharge of pollutants from ancillary areas containing toxic or hazardous substances or those substances which could result in an environmental emergency; where numeric effluent limitations are infeasible; or to carry out the purposes and intent of KRS 224. The facility has several areas where support activities occur which have a potential of the discharge of such substances through storm water runoff or spillage. Some of these areas will drain to present wastewater treatment plants, others will not.

Cooling Water Additives, FIFRA, and Mollusk Control

The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in cooling water which has the potential to ultimately be released to the waters of the Commonwealth is prohibited, except Herbicides, unless specifically identified and authorized by the KPDES permit.

In the event the permittee desires to use any biocide or chemical not previously reported for mollusk control or other purpose, the permittee shall submit sufficient information to the Division of Water for review and establishment of appropriate control parameters. The required information shall be submitted a minimum of thirty (30) days prior to the commencement of use of said biocide or chemical and shall include:

1. Name and general composition of biocide or chemical,
2. Any and all aquatic organism toxicity data,
3. Quantities to be used,
4. Frequencies of use,
5. Proposed discharge concentrations, and
6. EPA registration number, if applicable.

Outfall Signage

It is the Best Professional Judgment of the Division of Water, 401 KAR 5:080, Section 1(2)(c)2, that all permittees post a marker at all discharge locations and/or monitoring points. The marker specify shall at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and is to be posted as near as possible to the actual sampling location. The permittee shall comply with these requirements within sixty (60) days of the effective date of this permit.

15. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE - continued

Polychlorinated Biphenyls
Pursuant to the requirements of 401 KAR 5:065, Section 4(3) (40 CFR Parts 423.12(b)(2) and 423.13(a)), there shall be no discharge, from any point source, of Polychlorinated Biphenyl compounds such as those commonly used in transformer fluids. The permittee shall implement this requirement as a specific section of the BMP plan developed for this station.

Selective Catalytic Reduction Devices or Systems (SCRs) and Nonselective Catalytic Reduction Devices or Systems (NSCRs)
In response to Clean Air Act amendments, the installation of these devices for NOx reduction may become necessary. Associated with the installation and operation of these units, an "ammonia slip" may occur resulting in the discharge of ammonia to the ash pond. The impact of such an occurrence on the performance of the ash pond and any eventual impact on the environment is not known. Therefore, should it become necessary to install these devices, the permittee shall develop and implement an Ammonia Monitoring Plan. The plan shall be submitted to the Division of Water within ninety (90) days of the determination that these devices will be installed and shall include a minimum influent and effluent monitoring of each unit on a monthly basis with submission of the data as quarterly reports.

20. PERMIT DURATION

Five (5) years. This facility is in the Kentucky River Basin Management Unit as per the Kentucky Watershed Management Framework.

21. PERMIT INFORMATION

The application, draft permit fact sheet, public notice, comments received, and additional information is available by writing the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

22. REFERENCES AND CITED DOCUMENTS

All material and documents referenced or cited in this fact sheet are a part of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

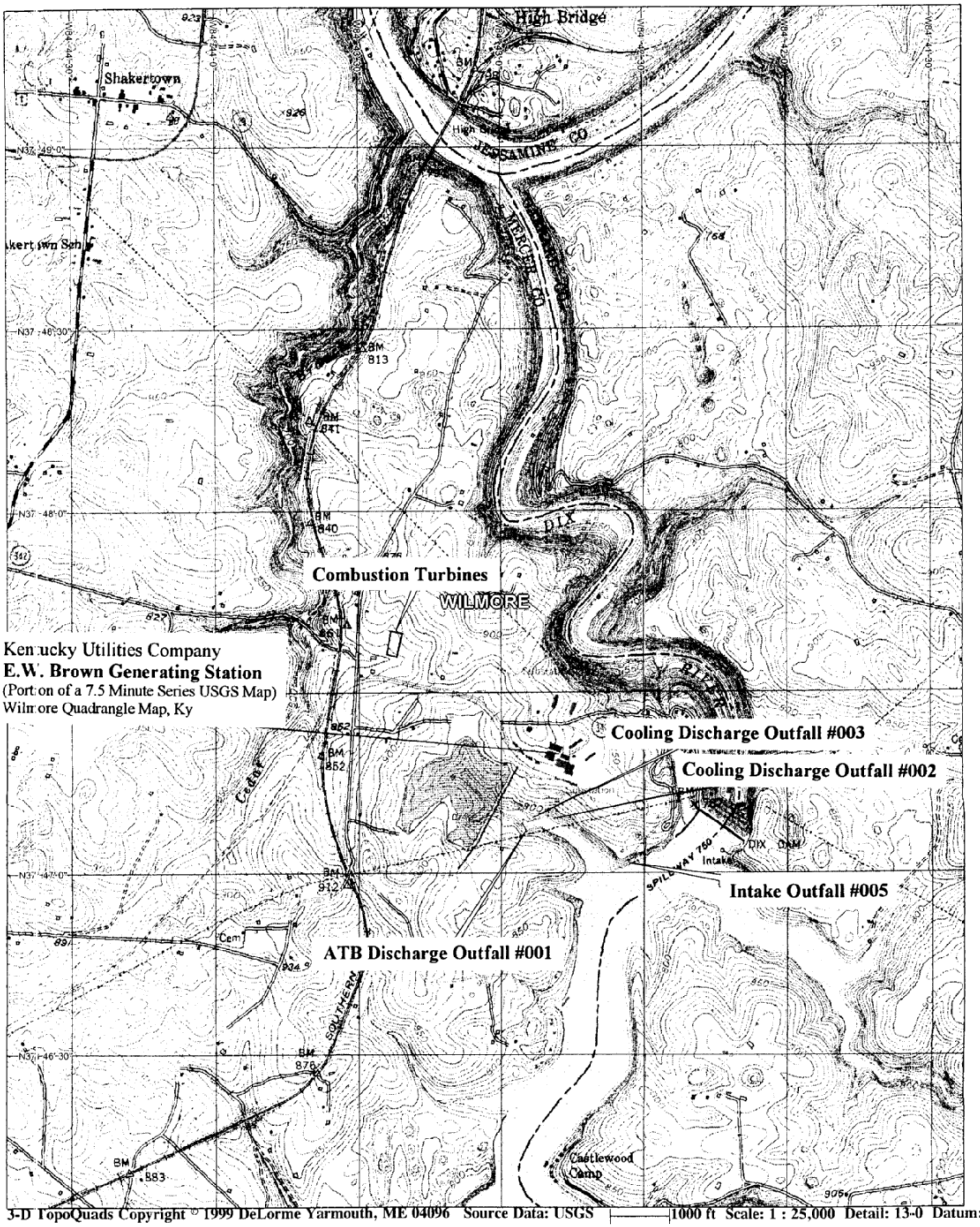
23. CONTACT

For further information contact the individual identified on the Public Notice or the Permit Writer – Sara Beard at (502) 564-3410, extension 4925 or e-mail Sara.Beard@ky.gov.

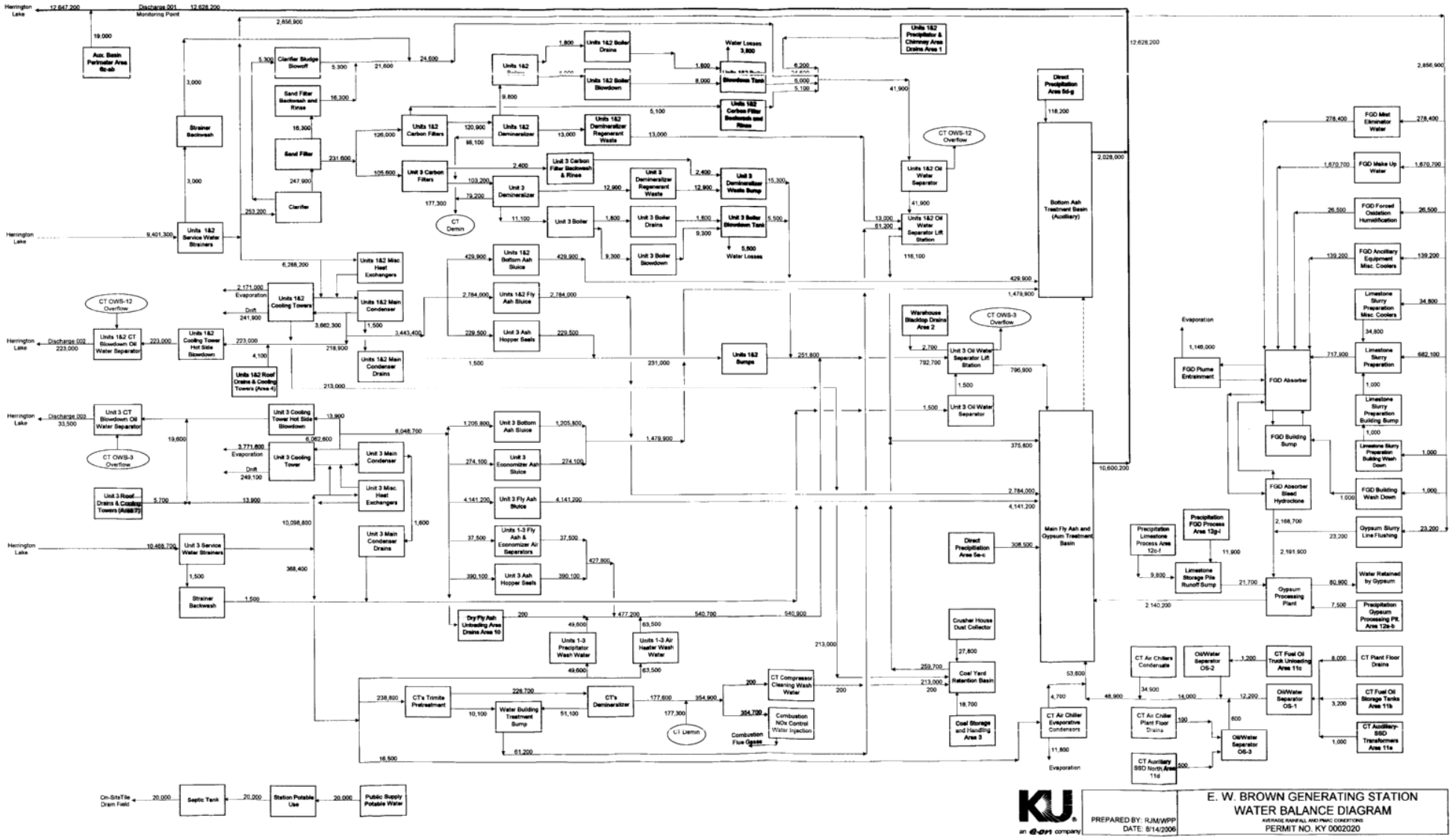
24. PUBLIC NOTICE INFORMATION

Please refer to the attached Public Notice for details regarding the procedures for a final permit decision, deadline for comments and other information required by 401 KAR 5:075, Section 4(2)(e).

Site Map


High Bridge
Shakertown
JESSAMINE CO
MERCER CO
DIX
WILMORE
Combustion Turbines
Kentucky Utilities Company
E.W. Brown Generating Station
(Portion of a 7.5 Minute Series USGS Map)
Wilmore Quadrangle Map, Ky
Cooling Discharge Outfall #003
Cooling Discharge Outfall #002
DIX DAM
Intake
SPILLWAY 750
Intake Outfall #005
ATB Discharge Outfall #001
Cedar
SOUTHERN
Cem
Castlewood Camp
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum:

E.W. BROWN GENERATING STATION - KPDES WATER BALANCE DIAGRAM
PEAK MONTHLY AVERAGE CONDITIONS (PMAC) - PROCESS FLOWS
AVERAGE RAINFALL



KU an E.ON company

PREPARED BY: RJM/WPP
DATE: 8/14/2006

E. W. BROWN GENERATING STATION
WATER BALANCE DIAGRAM
AVERAGE RAINFALL AND PMAC CONDITIONS
PERMIT NO. KY 0002020

KPDES

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0002020
AI No.: 3148

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Kentucky Utilities Company
P.O. Box 32010
Louisville, Kentucky 40232

is authorized to discharge from a facility located at

Kentucky Utilities Company
E.W. Brown Generating Station
815 Dix Dam Road
Harrodsburg, Mercer County, Kentucky

to receiving waters named

Outfalls 001, 002 and 003 discharge to Herrington Lake (Dix River) at mile point 3.4 (at N 37°47'03", W 84°43'09"; N 37°47'11", W 84°42'46"; and N 37°47'13", W 84°42'52", respectively).

Outfall 004 is an internal outfall that goes to the ash basins prior to discharge through Outfall 001.

Outfall 005 is the plant intake from Herrington Lake at N 37°46'59", W 84°42'32".

in accordance with effluent limitations, monitoring requirements and other conditions set forth in PARTS I, II, III, IV, and V hereof. The permit consists of this cover sheet, and PART I 7 pages, PART II 1 page, PART III 1 page, PART IV 3 pages, PART 4 3 pages.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Date Signed

Sandra L. Gruzesky, Director
Division of Water

A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 - Mixing, sedimentation, and chemical precipitation are provided to the combined wastewaters of the Bottom Ash Basin (bottom ash sluice) and the Fly Ash and Gypsum Treatment Basin (fly ash sluice and gypsum processing plant wastewater), low volume wastes (Units 1, 2, and 3 oil water separator lift stations and combustion turbines wastewater), stormwater and coal pile runoff, and metal cleaning wastes (internal Outfall 004).

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	2/Month	Instantaneous
Total Suspended Solids (mg/l)	30	80	2/Month	Grab
Oil & Grease (mg/l)	12	14	2/Month	Grab
Hardness (mg/l)	Report	Report	2/Month	Grab
Total Recoverable Metals (mg/l)	Report	Report	1/Quarter	Grab
Acute Toxicity (TUa)	N/A	1.00	1/Quarter	2 Grabs

The pH of the effluent shall not be less than 6.0 standard units nor greater than 9.0 standard units, and shall be monitored 2/Month by Grab sample.

Flow shall be monitored instantaneously by weir twice per month

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The term Total Recoverable Metals means those metals listed on Form C, Section V, Part C – Metals, Cyanide, and Total Phenols: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc.

Total Recoverable Metals shall be monitored once per quarter by grab sample. The results of the analyses shall be totaled and reported as a single concentration on the Discharge Monitoring Report (DMR). The laboratory bench sheets showing the results for each metal shall be attached to the DMR.

The abbreviation N/A means Not Applicable.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial numbers: Outfall 002 – Disinfection of cooling tower blowdown for Units 1 and 2 and untreated stormwater runoff. Outfall 003 - Disinfection of cooling tower blowdown for Unit 3 and miscellaneous heat exchangers and untreated stormwater runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	1/Week	Instantaneous
Temperature (^{o}F)	Report	Report	1/Week	Grab
Free Available Chlorine (mg/l)	0.2	0.5	1/Occurence	Multiple Grabs
Total Residual Chlorine (mg/l)	Removing from Permit			
Total Residual Oxidants (mg/l)	Report	0.20	1/Occurence	Multiple Grabs
Time of Oxidant Addition (min/unit/day)	N/A	120	1/Occurence	Multiple Grabs
Total Chromium (mg/l)	0.2	0.2	1/Year	Grab
Total Zinc (mg/l)	1.0	1.0	1/Year	Grab
Priority Pollutants* (mg/l)	N/A	NDA	1/Year	Grab

The pH of the effluent shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/Week by Grab sample.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

Total Residual Oxidants, Free Available Chlorine, Time of Chlorine Addition, and Time of Oxidant Addition shall be sampled by multiple grabs during periods of oxidation, but no more frequently than once per week. Multiple grabs shall consist of grab samples collected at the approximate beginning of Oxidant discharge and once every fifteen (15) minutes thereafter until the end of Oxidant discharge.

The term “daily maximum” as it applies to Free Available Chlorine and Total Residual Oxidants shall mean the average concentration during any individual chlorine (or other oxidizing agent) discharge period.

The abbreviation N/A means Not Applicable.
The abbreviation NDA means No Detectable Amount.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - continued

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge either at any one time.

The term Priority Pollutants means the 126 priority pollutants listed in 40 CFR Part 423 Appendix A. See Fact Sheet Attachment A – Regulatory Requirements.

* Compliance with the limitations for the 126 priority pollutants may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136. Sampling of cooling tower blowdown must be taken at the nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 004 (Metal Cleaning Waste Internal Outfall) – No treatment of batch metal cleaning wastes prior to discharge to Outfall 001.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	1/Occurence	Calculated
Copper, Total (mg/l)	1.0	1.0	1/Occurence	Grab
Iron, Total (mg/l)	1.0	1.0	1/Occurrence	Grab

The pH of the effluent shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/Occurence by Grab sample.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters or wastestreams from other outfalls.

A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 005 - Plant Intake

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	1/Week	Calculated
Temperature (^{o}F)	Report	Report	1/Week	Grab
Total Suspended Solids (mg/l)	Report	Report	1/Week	Grab
Hardness (as mg/l $CaCO_3$)	Report	Report	1/Week	Grab
Total Recoverable Metals (mg/l)	Report	Report	1/Quarter	Grab

The minimum and maximum pH of the effluent shall be monitored 1/Week by Grab sample.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: plant intake, except that temperature may be monitored at the river pumps.

The term Total Recoverable Metals means those metals listed on Form C, Section V, Part C – Metals, Cyanide, and Total Phenols: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc.

Total Recoverable Metals shall be monitored once per quarter by grab sample. The results of the analyses shall be totaled and reported as a single concentration on the Discharge Monitoring Report (DMR). The laboratory bench sheets showing the results for each metal shall be attached to the DMR.

B. Schedule of Compliance

The permittee shall comply with the effluent limitations and permit conditions by the effective of the permit.

Within one (1) year of the effective date of this permit, Kentucky Utilities Company - E.W. Brown Generating Station will submit to the Division of Water a 316(a) demonstration. At this time the Division will review the study and determine if alternate temperature limits are appropriate.

C. Cooling Water Additives, FIFRA, and Mollusk Control

The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in cooling water which has the potential to ultimately be released to the waters of the Commonwealth is prohibited, except Herbicides, unless specifically identified and authorized by the KPDES permit.

In the event the permittee desires to use any biocide or chemical not previously reported for mollusk control or other purpose, the permittee shall submit sufficient information to the Division of Water for review and establishment of appropriate control parameters. The required information shall be submitted a minimum of thirty (30) days prior to the commencement of use of said biocide or chemical and shall include:

1. Name and general composition of biocide or chemical,
2. Any and all aquatic organism toxicity data,
3. Quantities to be used,
4. Frequencies of use,
5. Proposed discharge concentrations, and
6. EPA registration number, if applicable.

D. Polychlorinated Biphenyls

Pursuant to the requirements of 401 KAR 5:065, Section 4(4) (40 CFR Parts 423.12(b)(2) and 423.13(a)), there shall be no discharge from any point source, of Polychlorinated Biphenyl compounds such as those commonly used in transformer fluids. The permittee shall implement this requirement as a specific section of the BMP plan developed for this station.

E. Selective Catalytic Reduction Devices or Systems (SCRs) and Nonselective Catalytic Reduction Devices or Systems (NSCRs)

In response to Clean Air Act amendments, the installation of these devices for NOx reduction may become necessary. Associated with the installation and operation of these units, an “ammonia slip” may occur resulting in the discharge of ammonia to the ash pond. The impact of such an occurrence on the performance of the ash pond and any eventual impact on the environment is not known. Therefore, should it become necessary to install these devices, the permittee shall develop and implement an Ammonia Monitoring Plan. The plan shall be submitted to the Division of Water within ninety (90) days of the determination that these devices will be installed and shall include a minimum influent and effluent monitoring of each unit on a monthly basis with submission of the data as quarterly reports.

F. 316(b) Cooling Water Intake Structure

Kentucky Utilities Company - E.W. Brown Generating Station is an "Existing Facility" pursuant to the definition found in 40 CFR 125.93. In response to the 2nd Circuit Court of Appeals decision in Riverkeeper, Inc., v. EPA, the EPA has suspended the Cooling Water Intake Structure Regulations for existing large power plants. The Division of Water believes that the permittee has demonstrated that the adverse environmental impact associated with the use of cooling water intake structures has been minimized and therefore complies with Section 316(b) of the Clean Water Act.

PART II - STANDARD CONDITIONS FOR KPDES PERMIT

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this permit.

PART III – OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water
Frankfort Regional Office
643 Teton Trail,
Suite B
Frankfort, Kentucky 40601
ATTN: Supervisor

Energy & Environment Cabinet
Dept. for Environmental Protection
Division of Water/Surface Water Permits Branch
200 Fair Oaks Lane
Frankfort, Kentucky 40601

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:085, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

C. Outfall Signage

The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location. The permittee shall comply with these requirements within sixty (60) days of the effective date of this permit.

PART IV - BEST MANAGEMENT PRACTICES

SECTION A. GENERAL CONDITIONS

1. Applicability

These conditions apply to all permittees who use, manufacture, store, handle or discharge any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act, oil, as defined in Section 311(a)(1) of the Act, and any pollutant listed as hazardous under Section 311 of the Act and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant in a reportable quantity, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

2. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents, or minimizes the potential for, the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

3. Implementation

The plan shall be modified to implement the requirements of Section B - Specific Conditions as soon as possible but not later than one (1) year from the effective date of the permit.

4. General Requirements

The BMP plan shall:

a. Be documented in narrative form, and shall include any necessary plot plans, drawings or maps.

b. Establish specific objectives for the control of toxic and hazardous pollutants.

(1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants", the plan should include a prediction of the direction, rate of flow and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.

c. Establish specific best management practices to meet the objectives identified under Paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."

d. Include any special conditions established in part B of this section.

e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document" and shall include the following baseline BMP's as a minimum.

a. BMP Committee
b. Reporting of BMP Incidents
c. Risk Identification and Assessment
d. Employee Training
e. Inspections and Records
f. Preventive Maintenance
g. Good Housekeeping
h. Materials Compatibility
i. Security
j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solids and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available to the Director within one (1) year after the effective date of the permit. Copies of the BMP plan shall be sent to:

Division of Water
Frankfort Regional Office
643 Teton Trail,
Suite B
Frankfort, Kentucky 40601
ATTN: Supervisor

Energy & Environment Cabinet
Dept. for Environmental Protection
Division of Water/Surface Water Permits Branch
200 Fair Oaks Lane
Frankfort, Kentucky 40601

9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants" then the specific objectives and requirements under Paragraphs b and c of Section 4, the permit and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit, the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

1. Periodically Discharged Wastewaters Not Specifically Covered By Effluent Guidelines

Kentucky Utilities Company – E.W. Brown Generating Station shall include in this BMP Plan procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, etc.

PART V – BIOMONITORING - ACUTE CONCERNS

In accordance with PART I of this permit, the permittee shall initiate, within 30 days of the effective date of this permit, or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 001.

TEST REQUIREMENTS

The permittee shall perform a 48-hour static non-renewal toxicity test with water flea (Ceriodaphnia dubia) and a 48-hour static non-renewal toxicity test with fathead minnow (Pimephales promelas). Tests shall be conducted on each of two grab samples taken over a 24-hour period approximately 12 hours apart (e.g. discrete sample #1 taken at 9:00 a.m., sample #2 taken at 9:00 p.m.). In addition to use of a control, effluent concentrations for the tests must include the permitted limit, (i.e., 100% effluent) and at least four additional effluent concentrations. For a permit limit of 100% effluent, test concentrations shall be 20%, 40%, 60%, 80% and 100%. If the permit limit is less than 100% effluent and greater than or equal to 75% effluent, the test concentrations shall include the permitted limit, two concentrations below the limit that are based on a 0.5 dilution factor, and two concentrations above the limit (to include 100% and mid-point between the permit limit and 100%). If the permit limit is less than 75% effluent, test concentrations shall include the permit limit concentration, two concentrations below the limit based on a 0.5 dilution factor, and two concentrations above the limit based on a 0.5 dilution factor if possible, otherwise to include 100% and mid-point between the permit limit and 100% . Selection of different effluent concentrations must be approved by the Division prior to testing. Testing of the effluent shall be initiated within 36 hours of each sample collection. Controls shall be conducted concurrently with effluent testing using synthetic water. The analysis will be deemed reasonable and good only if control survival is 90% or greater in test organisms held in synthetic water. Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period (i.e. monthly or quarterly). Noncompliance with the toxicity limit will be demonstrated if the LC_{50} is less than 100% effluent.

Tests shall be conducted on both species at the frequency specified in PART I of this permit.

If after at least six consecutive toxicity tests it can be determined that Ceriodaphnia dubia or the fathead minnow is more sensitive and all tests have passed, a request for testing with only the most sensitive species can be submitted to the Division. Upon approval, that most sensitive species may be considered as representative and all subsequent compliance tests can be conducted using only that species unless directed at any time by the Division to change or revert to both.

REPORTING REQUIREMENTS

Results of all toxicity tests conducted with any species shall be reported according to the most recent format provided by the Division of Water. Notification of failed test shall be made to the Division's Water Quality Branch within five days of test completion. Test reports shall be submitted to the Division's Water Quality Branch within thirty (30) days of completion.

PART V – BIOMONITORING - ACUTE CONCERNS

ACUTE TOXICITY

If noncompliance with the toxicity limit occurs in an initial test, (i.e., the LC_{50} for either species in either grab sample is less than 100% effluent), the permittee must repeat the test using new grab samples collected approximately 12 hours apart. Sampling must be initiated within 10 days of completing the failed test. The second round of testing shall include both species unless approved for only the most sensitive species by the Division. Results of the second round of testing will be used to evaluate the persistence of the toxic event and the possible need for a Toxicity Reduction Evaluation (TRE).

If the second round of testing also demonstrates noncompliance with the toxicity limit, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four additional rounds of testing to evaluate the frequency and degree of toxicity within 60 days of completing the second failed round of testing. Results of the initial and second rounds of testing specified above plus the four additional rounds of testing will be used in deciding if a TRE shall be required.

If results from any two of six rounds of testing show a significant noncompliance with the acute limit, (i.e., ≥1.2 times the TU_a), or results from any four of the six tests show acute toxicity (as defined in 1.A), a TRE will be required.

The permittee shall provide written notification to the Division of Water within five (5) days of completing the accelerated testing, stating that: (1) toxicity persisted and that a TRE will be initiated; or (2) that toxicity did not persist and normal testing will resume.

Should toxicity prove not to be persistent during the accelerated testing period, but reoccur within 12 months of the initial failure at a level • 1.2 times the TU_a, then a TRE shall be required.

TOXICITY REDUCTION EVALUATION (TRE)

Having determined that a TRE is required, the permittee shall initiate and/or continue at least monthly testing with both species until such time as a specific TRE plan is approved by the Division. A TRE plan shall be developed by the permittee and submitted to the Division within thirty days of determining a TRE is required. The plan shall be developed in accordance with the most recent EPA and Division guidance. Questions regarding this process may be submitted to the Division's Water Quality Branch.

The TRE plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE plan will establish an implementation schedule to begin immediately upon approval by the Division, to have duration of at least six months, and not to exceed 24 months. The implementation schedule shall include quarterly progress reports being submitted to the Division's Water Quality Branch, due the last day of the month following each calendar quarter.

PART V – BIOMONITORING - ACUTE CONCERNS

TOXICITY REDUCTION EVALUATION (TRE)

Upon completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and actions taken or to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions including an implementation schedule not to exceed 180 days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the planned conclusion of the TRE, the permittee will notify the Division's Water Quality Branch within five days of making that determination and take appropriate actions to implement the solution within 180 days of that notification.

TEST METHODS

All test organisms, procedures, and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA-821-R-02-012 (5th edition), the most recently published edition of this publication, or as approved in advance by the Division of Water.

Toxicity testing for compliance to KPDES discharge limits shall be performed by a laboratory approved by the Division of Water to conduct the required toxicity tests. Within each toxicity report to the Division, the permittee must demonstrate successful performance of reference toxicant testing by the laboratory that conducts their effluent toxicity tests. Within 30 days prior to initiating an effluent toxicity test, a reference toxicant test must be completed for the method used; alternatively, the reference toxicant test may be run concurrent with the effluent toxicity test. In addition, for each test method, at least 5 acceptable reference toxicant tests must be completed by the laboratory prior to performing the effluent toxicity test. A control chart including the most recent reference toxicant test endpoints for the effluent test method (minimum of 5, up to 20 if available) shall be part of the report.

FACT SHEET ATTACHMENT A - REGULATORY REQUIREMENTS

EFFLUENT GUIDELINES

PART 423 - STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY (1974 version)

Section 423.12 - Best Practicable Control Technology Currently Available (BPT)

(b)(1) The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 to 9.0 standard units.

(b)(2) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(b)(3) The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in the following table.

Low volume wastes sources means, taken collectively as if from one (1) source, wastewater from all sources except those for which specific limitations are otherwise established. Included, but not limited to, wet scrubber air pollution control systems, ion exchange water treatment system, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

Pollutant or Pollutant Characteristic	Maximum for Any 1 Day (mg/l)	Average of Daily Values for 30 Consecutive Days Shall Not Exceed (mg/l)
Total Suspended Solids	100.0	30.0
Oil & Grease	20.0	15.0

(b)(4) The quantity of pollutants discharged in fly ash and bottom ash transport waters shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport waters times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum for Any 1 Day (mg/l)	Average of Daily Values for 30 Consecutive Days Shall Not Exceed (mg/l)
Total Suspended Solids	100.0	30.0
Oil & Grease	20.0	15.0

(b)(5) The quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum for Any 1 Day (mg/l)	Average of Daily Values for 30 Consecutive Days Shall Not Exceed (mg/l)
Total Suspended Solids	100.0	30.0
Oil & Grease	20.0	15.0
Copper, Total	1.0	1.0
Iron, Total	1.0	1.0

Section 423.12 - Best Practicable Control Technology Currently Available (BPT) - continued

(b)(6) The quantity of pollutants discharged in once-through cooling water shall not exceed the quantity determined by multiplying the flow of once-through cooling water times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum Concentration (mg/l)	Average Concentration (mg/l)
Free Available Chlorine	0.5	0.2

(b)(7) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum Concentration (mg/l)	Average Concentration (mg/l)
Free Available Chlorine	0.5	0.2

The term average concentration as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two (2) hours.

(b)(8) Neither Free Available Chlorine nor Total Residual Chlorine may be discharged from any unit for more than two (2) hours in any one day and not more than one (1) unit in any plant may discharge Free Available Chlorine or Total Residual Chlorine at any one time.

(b)(9) The following effluent limitations shall apply to the point source discharges of coal pile runoff.

Pollutant or Pollutant Characteristic	Maximum Concentration for Any Time (mg/l)
Total Suspended Solids	50

Section 423.13 - Best Available Technology Economically Achievable (BAT)

(a) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(b)(1) For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once-through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of the once-through cooling water from each discharge point times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum Concentration for Any Time (mg/l)
Total Residual Chlorine	0.2

Section 423.13 - Best Available Technology Economically Achievable (BAT) - continued

(b)(2) Total Residual Chlorine may not be discharged from any single generating unit for more than two (2) hours per day.

(d)(1) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum Concentration (mg/l)	Average Concentration (mg/l)
Free Available Chlorine	0.5	0.2

Pollutant or Pollutant Characteristic	Maximum for Any 1 Day (mg/l)	Average of Daily Values for 30 Consecutive Days Shall Not Exceed (mg/l)
The 126 priority pollutants contained in chemicals added for cooling tower maintenance except:	No detectable amount	No detectable amount
Chromium, Total	0.2	0.2
Zinc, Total	1.0	1.0

(d)(2) Neither Free Available Chlorine nor Total Residual Chlorine may be discharged from any unit for more than two (2) hours in any one (1) day and not more than one (1) unit in any plant may discharge Free Available Chlorine or Total Residual Chlorine at any one time.

(d)(3) At the permitting authority's discretion, instead of the monitoring specified in 40 CFR 122.11(b) compliance with the limitations for the 126 priority pollutants in paragraph (d)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

(e) The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of the chemical metal cleaning wastes times the concentration listed in the following table.

Pollutant or Pollutant Characteristic	Maximum for Any 1 Day (mg/l)	Average of Daily Values for 30 Consecutive Days Shall Not Exceed (mg/l)
Copper, Total	1.0	1.0
Iron, Total	1.0	1.0

BEST PROFESSIONAL JUDGEMENT

401 KAR 5:080, SECTION 1(2)(c)2

For Plant Area Storm Water Runoff

Pollutant or Pollutant Characteristic	Maximum Concentration (mg/l)	Average Concentration (mg/l)
Total Suspended Solids	50	30
Oil & Grease	15.0	10.0

401 KAR 5:080, SECTION 1(2)(c)2 - continued

To calculate the flows for precipitation-based discharges, the following formula will be used.

Q = CIAF

Where Q is flow (in MGD)	1-Day Flow	30-Day Flow
C is the coefficient of runoff		
I is the rainfall (in inches)	10-yr, 24-hr event	Annual Ave. Rainfall
A is the area (in acres)		
F is the units conversion factor	0.027152400	0.000074390

Due to the treatment plant being a co-treatment system, the development of flow-weighted limitations is required to insure compliance with the effluent guidelines. To calculate the limits for each parameter, the following formulas are used.

$$\text{Monthly Average} = \frac{\sum Q_{30} \times F_{30}}{Q_{30}} \qquad \text{Daily Maximum} = \frac{\sum Q_1 \times F_1}{Q_1}$$

Where Q_{30} is the 30-day or average flow of each component wastestream
Q_1 is the maximum flow of each component wastestream
F_{30} is the average factor applied to each component wastestream
F_1 is the maximum factor applied to each component wastestream

Flow Calculations - Outfall 001

Source	Coefficient of Runoff	Surface Area (acres)	10-yr 24-hr Rainfall (inches)	Average Annual Rainfall (inches)	Maximum Conversion Factor	Average Conversion Factor	Maximum Flow (gpm)	Average Flow (gpm)
Area 1 - U 1&2 ESP and O/W separator, Chimney Area, Parking Lot								
Gravel Areas	0.250	0.44	4.30	44.49	18.71	1.23	8.85	6.02
Asphalt Parking	0.850	1.88	4.30	44.49	18.71	1.23	128.56	87.46
Grass (slope < 2%)	0.250	0.17	4.30	44.49	18.71	1.23	3.42	2.33
Roof Drains	0.85	0.16	4.30	44.49	18.71	1.23	10.94	7.44
Total							**151.77**	**103.25**
Area 2 - U 3 ESP, Chimney Area, Warehouse Area, U 3 O/W separator								
Gravel Areas	0.250		4.30	44.49	18.71	1.23	0.00	0.00
Gravel Areas	0.250	0.36	4.30	44.49	18.71	1.23	7.24	4.93
Asphalt Parking (Warehouse)	0.850	0.87	4.30	44.49	18.71	1.23	59.49	40.47
Grass (slope < 2%)	0.250		4.30	44.49	18.71	1.23	0.00	0.00
Total							**66.74**	**45.40**
Area 3 - Coal Storage and Handling Area								
Coal Pile	0.500	10.29	4.30	44.49	18.71	1.23	413.93	281.58
Basin Surface	1.000	0.51	4.30	44.49	18.71	1.23	41.03	27.91
Total							**454.96**	**309.49**
Area 5 - Ash Treatment Basins								
Main ATB Basin Surface	1.000	79.59	4.30	44.49	18.71	1.23	6403.25	4355.86
Main ATB Inner Slope	0.250	34.35	4.30	44.49	18.71	1.23	690.89	469.98
Road around Main ATB	0.500	10.12	4.30	44.49	18.71	1.23	407.09	276.93
Face btwn Main & Aux Ponds	0.250	7.44	4.30	44.49	18.71	1.23	149.64	101.80
Aux ATB Basin Surface	1.000	26.03	4.30	44.49	18.71	1.23	2094.19	1424.59
Aux ATB Inner Slope	0.250	27.03	4.30	44.49	18.71	1.23	543.66	369.83
Road around Aux ATB	0.500	2.05	4.30	44.49	18.71	1.23	82.46	56.10
Total							**10371.20**	**7055.09**
Area 10 - Dry Fly Ash Handling								
Asphalt, Dry Fly Ash Handling	0.850	0.07	4.30	44.49	18.71	1.23	4.79	3.26
Total							**4.79**	**3.26**

Area 11 - CTs Facility Area and Bldg Roof Drains								
CT-Facility Diked Transformer Pads	0.850	0.36	4.30	44.49	18.71	1.23	24.62	16.75
Fuel Oil Storage/Bermed Area	0.850	1.14	4.30	44.49	18.71	1.23	77.96	53.03
Fuel Oil Truck Diked Unloading	0.850	0.41	4.30	44.49	18.71	1.23	28.04	19.07
CT-5,6&7 Facility Diked Equip	0.850	0.18	4.30	44.49	18.71	1.23	12.31	8.37
Total							**142.92**	**97.23**
Area 12 - Gypsum Dewatering, Gas Regulating Station, Limestone Unloading & Processing, FGD Operations								
Gypsum Stack	0.250	0.45	4.30	44.49	18.71	1.23	9.05	6.16
Gypsum Processing Bldg, Pad & Roads	0.850	2.52	4.30	44.49	18.71	1.23	172.33	117.23
Gas Regulating Station	0.250	1.32	4.30	44.49	18.71	1.23	26.55	18.06
LS Truck Unloading Pads/Feeder Roads	0.250	0.60	4.30	44.49	18.71	1.23	12.07	8.21
LS Stockpile	0.850	1.98	4.30	44.49	18.71	1.23	135.40	92.11
LS Prep Area	0.850	0.91	4.30	44.49	18.71	1.23	62.23	42.33
FGD Area	0.850	2.89	4.30	44.49	18.71	1.23	197.63	134.44
FGD Duct Area	0.850	0.45	4.30	44.49	18.71	1.23	30.77	20.93
LS Prep & FGD Feeder Roads	0.850	0.90	4.30	44.49	18.71	1.23	61.55	41.87
Total							**707.58**	**481.34**

Limits Calculations - Outfall 001

	Flow (gpm)		Total Suspended Solids				Oil & Grease			
			Factor		Contribution		Factor		Contribution	
Source	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average
Area 1	151.775	103	50	30	7589	3097	5	5	759	516
Area 2	66.736	45.398	50	30	3337	1362	5	5	334	227
Area 3	454.962	309.491	50	30	22748	9285	5	5	2275	1547
Area 5	10371.196	7055.089	50	30	518560	211653	5	5	51856	35275
Area 10	4.787	3.256	50	30	239	98	5	5	24	16
Area 11	142.925	97.226	50	30	7146	2917	5	5	715	486
Area 12	707.584	481.340	50	30	35379	14440	5	5	3538	2407
Ash Sluice Water	12722.4	12722.4	100	30	1272240	381672	20	15	254448	190836
Low Volume Wastes	4847.760	4847.760	100	30	484776	145433	20	15	96955	72716
Totals	29470.124	25665			2352014	769956			410903	304028
Limits (mg/l)					**80**	**30**			**14**	**12**

APPENDIX A TO PART 403—126 PRIORITY POLLUTANTS		
001 Acenaphthene	044 Methylene chloride (dichloromethane)	088 Vinyl chloride (chloroethylene)
002 Acrolein	045 Methyl chloride (dichloromethane)	089 Aldrin
003 Acrylonitrile	046 Methyl bromide (bromomethane)	090 Dieldrin
004 Benzene	047 Bromoform (tribromomethane)	091 Chlordane (technical mixture and metabolites)
005 Benzidine	048 Dichlorobromomethane	092 4,4-DDT
006 Carbon tetrachloride (tetrachloromethane)	051 Chlorodibromomethane	093 4,4-DDE (p,p-DDX)
007 Chlorobenzene	052 Hexachlorobutadiene	094 4,4-DDD (p,p-TDE)
008 1,2,4-trichlorobenzene	053 Hexachloromyclopentadiene	095 Alpha-endosulfan
009 Hexachlorobenzene	054 Isophorone	096 Beta-endosulfan
010 1,2-dichloroethane	055 Naphthalene	097 Endosulfan sulfate
011 1,1,1-trichloreothane	056 Nitrobenzene	098 Endrin
012 Hexachloroethane	057 2-nitrophenol	099 Endrin aldehyde
013 1,1-dichloroethane	058 4-nitrophenol	100 Heptachlor
014 1,1,2-trichloroethane	059 2,4-dinitrophenol	101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
015 1,1,2,2-tetrachloroethane	060 4,6-dinitro-o-cresol	102 Alpha-BHC
016 Chloroethane	061 N-nitrosodimethylamine	103 Beta-BHC
018 Bis(2-chloroethyl) ether	062 N-nitrosodiphenylamine	104 Gamma-BHC (lindane)
019 2-chloroethyl vinyl ether (mixed)	063 N-nitrosodi-n-propylamin	105 Delta-BHC (PCB-polychlorinated biphenyls)
020 2-chloronaphthalene	064 Pentachlorophenol	106 PCB–1242 (Arochlor 1242)
021 2,4, 6-trichlorophenol	065 Phenol	107 PCB–1254 (Arochlor 1254)
022 Parachlorometa cresol	066 Bis(2-ethylhexyl) phthalate	108 PCB–1221 (Arochlor 1221)
023 Chloroform (trichloromethane)	067 Butyl benzyl phthalate	109 PCB–1232 (Arochlor 1232)
024 2-chlorophenol	068 Di-N-Butyl Phthalate	110 PCB–1248 (Arochlor 1248)
025 1,2-dichlorobenzene	069 Di-n-octyl phthalate	111 PCB–1260 (Arochlor 1260)
026 1,3-dichlorobenzene	070 Diethyl Phthalate	112 PCB–1016 (Arochlor 1016)
027 1,4-dichlorobenzene	071 Dimethyl phthalate	113 Toxaphene
028 3,3-dichlorobenzidine	072 1,2-benzanthracene (benzo(a)anthracene)	114 Antimony
029 1,1-dichloroethylene	073 Benzo(a)pyrene (3,4-benzo-pyrene)	115 Arsenic
030 1,2-trans-dichloroethylene	074 3,4-Benzofluoranthene (benzo(b)fluoranthene)	116 Asbestos
031 2,4-dichlorophenol	075 11,12-benzofluoranthene (benzo(b)fluoranthene)	117 Beryllium
032 1,2-dichloropropane	076 Chrysene	118 Cadmium
033 1,2-dichloropropylene (1,3-dichloropropene)	077 Acenaphthylene	119 Chromium
034 2,4-dimethylphenol	078 Anthracene	120 Copper
035 2,4-dinitrotoluene	079 1,12-benzoperylene (benzo(ghi) perylene)	121 Cyanide, Total
036 2,6-dinitrotoluene	080 Fluorene	122 Lead
037 1,2-diphenylhydrazine	081 Phenanthrene	123 Mercury
038 Ethylbenzene	082 1,2,5,6-dibenzanthracene (dibenzo(,h) anthracene)	124 Nickel
039 Fluoranthene	083 Indeno (,1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)	125 Selenium
040 4-chlorophenyl phenyl ether	084 Pyrene	126 Silver
041 4-bromophenyl phenyl ether	085 Tetrachloroethylene	127 Thallium
042 Bis(2-chloroisopropyl) ether	086 Toluene	126 Silver
043 Bis(2-chloroethoxy) methane	087 Trichloroethylene	128 Zinc
		129 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)